REMARKS/ARGUMENTS

Claims 1 and 24 are amended and claim 2 is canceled herein. Claims 33-46 are withdrawn from consideration. With entry of this Amendment, claims 1, 3-4 and 7-32 will be pending.

Claims 1 and 7-10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0006640 (Inderieden et al.) in view of U.S. Patent No. 6,904,017 (Meempat et al.).

Claim 1 is directed to a method of determining traffic paths between one or more source-destination node pairs in a communications network. The method includes starting from a first set of paths between the source-destination node pairs, determining a second set of paths between the source-destination node pairs while taking into account a set of constraints, such that the second set of paths emulates the first set of paths. The first set of paths is related to the use of a first routing protocol and the second set of paths is determined for use with a second routing protocol, different from the first routing protocol. Each path extends from a network interface at a source node to a destination node. Claim 1 has been amended to clarify that the paths in the second set of paths emulate a fraction of traffic carried on the paths in the first set of paths.

Inderieden et al. describe notification to routing protocols of changes to a routing information base. Rather than starting from a first set of paths related to the use of a first routing protocol and determining a second set of paths determined for use with a second routing protocol, Inderieden et al. simply point out that a routing information base may include a plurality of routes provided by different routing protocols. There is no determination of a second route from a first route. Instead, the routing information base includes a plurality of independent routes.

In rejecting the claims, the Examiner refers to paragraphs [0007] and [0035] of Inderieden et al. Paragraph [0007] is in the Background section and describes how multi-protocol routing architectures increase scalability of a system by providing a plurality of

different routing protocols, each of which provide candidate routes to a centralized routing base. There are a plurality of independent routes and no disclosure of starting from a first set of paths and determining a second set of paths. Paragraph [0035] describes how an active route selection is carried out. The RIB accepts route updates from the different protocols. Each individual route update is processed before being stored in the RIB. Each route has its own route preference value which can be used for comparison with matching routes. Each route is determined from its own routing protocol and independent from routes of another routing protocol. Again, there is no teaching of starting from a first set of paths related to a first routing protocol and determining a second set of paths related to a second routing protocol.

The conventional systems cited by the Examiner do not start from a first set of paths related to the use of a first routing protocol and determine a second set of paths for use with a second routing protocol. Instead, Inderieden et al. use a routing information base may include a plurality of routes provided by different routing protocols. The paths for one routing protocol routes do not emulate paths for a different routing protocol routes. Also, each path is determined independently from one another.

Furthermore, Inderieden et al. do not show or suggest taking into account of set of constraints associated with the second routing protocol to determine the second set of paths from the first set of paths. In rejecting the claims, the Examiner notes "The route with the lowest preference value is considered the best". The Examiner has failed to point to any teaching of using constraints in determining a second set of paths.

Moreover, Inderieden et al. do not teach determining a second set of paths wherein the paths in the second set of paths emulate a fraction of traffic carried on paths in a first set of paths. In rejecting claim 2, the Examiner cites U.S. Patent Application No. 2005/0128940 (Wen et al.). Wen et al. describe 1+1 mesh protection and notes that traffic can be sent across two paths. Wen et al. do not show or suggest paths in a second set of paths which emulate a fraction of traffic carried on paths in a first set of paths. Instead, Wen et al. simply sends duplicate traffic on two paths.

As noted by the Examiner, Inderieden et al. do not disclose paths extending from a network interface at a source node to a destination node.

Meempat et al. describe centralized call admission control and load balancing. In rejecting the claims the Examiner refers to col. 4, lines 65-67, which describes a set of alternate spatially diverse MPLS paths set up between a pair of source and destination edge nodes. There is no teaching of multiple paths extending from a network interface at a source node to a destination node.

Applicants' invention, as set forth in the claims is particularly advantageous in that it alleviates the difficulties of migration between two different protocols. Furthermore, the invention determines traffic paths that emulate the routing behaviour under an existing or previously implemented routing protocol, while taking into account constraints imposed by another routing protocol.

Accordingly, claim 1 is submitted as patentable over Inderieden et al. and Meempat et al.

Claims 3-4, 7-23, 26-32, depending either directly or indirectly from claim 1, are submitted as patentable for at least the same reasons as claim 1.

Claim 7 is further submitted as patentable over the cited references which do not show or suggest a second set of paths determined such that the routing using a second routing protocol is similar to the routing using a first routing protocol. In rejecting the claims, the Examiner states that "since the source and the destination is the same, at least the source and destination of the routing determined by the different protocols are similar". As shown for example, in Figs. 4A and 4B of applicants' specification, routing between a source and a destination can take many different paths. Thus, there is no teaching in Inderieden et al. that a second set of paths according to a second routing protocol is similar to the routing using a first routing protocol.

Regarding claims 8 and 9, as previously discussed, Inderieden et al. do not disclose any constraints. The Examiner refers to a preference value associated with routes that have

already been determined. This is not a constraint related to a second set of paths and used in determining a set of paths.

Claim 13 is further submitted as patentable over Inderieden et al., which does not show or suggest wherein second routing protocol data are routed on pre-determined paths. In rejecting the claim, the Examiner refers to Fig. 2, which illustrates a dynamic routing system. There is no teaching of using pre-determined paths in selecting a second set of paths.

Claim 15 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Inderieden et al., Meempat et al. and U.S. Patent Application Publication No. 2001/0012298 (Harshavadhana). Claim 15 requires that constraints comprise a maximum number of paths between source-destination node pairs. In contrast, Harshavadhana et al. describe how a pre-specified parameter is used to limit the maximum number of paths which can be stored in memory for each source-destination ring pair. Thus, Harshavadhana teaches away from using a maximum number of paths for constraints.

Claim 16 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Inderieden et al., Meempat et al. and U.S. Patent Application Publication No. 20070286201 (Prager et al.). Prager et al. note at paragraph [0022] that a bandwidth load balance value may be expressed as a ratio of a numerator and a denominator. The Examiner has failed to paint to any teaching of constraints that comprise that the traffic between a particular source-destination node pair is load-balanced such that the share of traffic along any paths is a fraction with constrained integer numerator and denominator.

Claims 17-20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Inderieden et al., Meempat et al., and U.S. Patent No. 5,519,836 (Gawlick et al.). Gawlick et al. describe a method of on-line permanent virtual circuit routing. In rejecting the claims, the Examiner refers to refinement of a routing selection so that the total cost of routing all of the virtual circuits is reduced. Gawlick et al. use a greedy heuristic in which each possible alternative path for each virtual circuit is examined to see which alternative path, if any, reduces the cost of routing by the greatest amount. In contrast to Gawlick et al., claims 17-20 describe search techniques used to determine a second set of paths from a

first set of paths. Gawlick et al. use a heuristic to compare selected alternative paths. The claimed invention uses search techniques to determine a second set of paths from a first set of paths. Furthermore, Gawlick et al. do not teach using a generate and test search algorithm or an optimal search algorithm.

Claims 22-23 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Inderieden et al., Meempat et al. and U.S. Patent Application Publication No. 20040202111 (Beshai) and 2005/0018693 (Dull). Dull discloses a fast filtering processor. The Examiner refers to paragraph [0039] which describes how equal cost paths are chosen in a random manner. The Examiner has failed to point to any teaching of wherein ties between symmetric solutions are broken randomly.

Claims 24 and 25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Inderieden et al., Meempat et al. and Wen et al. Claims 24 and 25 are submitted as patentable for at least the reasons discussed above with respect to claim 1. As previously discussed, the cited references do not show or suggest a first set of paths related to the use of a first routing protocol and a second set of paths determined for use with a second routing protocol. Wen et al. describe 1+1 mesh protection and notes that traffic can be sent across two paths. Wen et al. do not show or suggest paths in a second set of paths which emulate a fraction of traffic carried on paths in a first set of paths. Instead, Wen et al. simply duplicate traffic on two paths.

Claim 26 is further submitted as patentable over U.S. Patent No. 6,665,273 (Goguen et al.) and U.S. Patent Application Publication No. 2007/0124488 (Baum et al.), which does not show or suggest switching from an interior gateway protocol to a multi-protocol label-switching traffic engineering protocol. In rejecting the claim, the Examiner refers to Fig. 5 of Baum et al., which shows migration to other types of physical transport and switching/routing protocols (Ethernet, Frame Relay, etc.).

Claims 27-28, depending from claim 26, are submitted as patentable for at least the same reasons as claim 26.

The other references cited, including U.S. Patent Application Publication Nos. 2004/0249971 (Klinker) and 2004/0052207 (Charny), and U.S. Patent No. 7,130,262 (Cortez), do not overcome the deficiencies of the primary references.

For the foregoing reasons, Applicants believe that all of the pending claims are in condition for allowance and should be passed to issue. If the Examiner feels that a telephone conference would in any way expedite the prosecution of the application, please do not hesitate to call the undersigned at (408) 399-5608.

Respectfully submitted,

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